CLAIMS

1. A method of modulating an endothelial cell proinflammatory phenotype which method comprises administration of an effective amount of an agent for a time and under conditions sufficient to modulate the functional activity of a C-reactive protein wherein down-regulating the functional activity of said C-reactive protein down-regulates said inflammatory phenotype.

2. A method of modulating an endothelial cell proinflammatory phenotype in a mammal, said method comprising administering to said mammal an effective amount of an agent for a time and under conditions sufficient to modulate the functional activity of a C-reactive protein wherein down-regulating the functional activity of said C-reactive protein down-regulates said inflammatory phenotype.

3. A method of modulating an inflammatory response in a mammal, said method comprising administering to said mammal an effective amount of an agent for a time and under conditions sufficient to modulate the functional activity of a C-reactive protein wherein down-regulating the functional activity of said C-reactive protein down-regulates the proinflammatory phenotype of an endothelial cell.

4. A method of therapeutically and/or prophylactically treating a condition, or a predisposition to the development of a condition, characterised by an aberrant inflammatory response in a mammal, said method comprising administering to said mammal an effective amount of an agent for a time and under conditions sufficient to modulate the functional activity of a C-reactive protein wherein down-regulating the functional activity of said C-reactive protein down-regulates the proinflammatory phenotype of an endothelial cell.

5. The method according to any one of claims 1 to 4, wherein said proinflammatory phenotype is the up-regulation of adhesion molecule expression.

6. The method according to claim 5, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

7. The method according to claim 5 or 6, wherein said endothelial cell is a vascular endothelial cell.

8. The method according to claim 7, wherein said modulation of adhesion molecule expression is down-regulation of expression.

9. The method according to claim 7, wherein said modulation of adhesion molecule expression is up-regulation of expression.

10. The method according to claim 4, wherein said condition is an unwanted inflammatory condition, said endothelial cell is a vascular endothelial cell and said proinflammatory phenotype is adhesion molecule expression which is down-regulated.

11. The method according to claim 10, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

12. The method according to claim 11, wherein said inflammatory condition is atherosclerosis, inflammatory cardiovascular disease or atherosclerotic cardiovascular disease.

13. The method according to claim 12, wherein said atherosclerotic cardiovascular disease is atherosclerotic coronary heart disease or stroke.

14. The method according to claim 11, wherein said inflammatory condition is diabetic vascular complications or chronic inflammatory disease such as rheumatoid arthritis or chronic colonic disease.

15. The method according to any one of claims 12 to 14, wherein said mammal has diabetes and is predisposed to the development of said inflammatory condition.

16. The method according to any one of claims 12 to 14, wherein said mammal is obese and is predisposed to the development of said inflammatory condition.

17. The method according to claim 4, wherein said condition is an inadequate inflammatory response, said endothelial cell is a vascular endothelial cell and said proinflammatory phenotype is adhesion molecule expression which is up-regulated.

18. The method according to claim 17 wherein said condition is an infection, cancer, myocardial infarction or said condition is one which requires an increase in vascular regeneration, such as wound healing.

19. The method according to claim 17 or 18, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

20. The method according to any one of claims 1 to 7, 9 or 17 to 19, wherein said modulation is upregulation of C-reactive protein functional activity and said up-regulation is achieved by introducing into said mammal a nucleic acid molecule encoding C-reactive protein or functional derivative or homologue thereof or the C-reactive protein expression product or functional derivative or homologue thereof.

21. The method according to any one of claims 1 to 18, wherein said modulation is achieved by introducing to said mammal a proteinaceous or non-proteinaceous molecule which modulates transcriptional and/or translational regulation of the C-reactive protein gene.

22. The method according to any one of claims 1 to 7, 9 or 17 to 19, wherein said modulation is up-regulation of C-reactive protein functional activity and said up-regulation is achieved by contacting said endothelial cell with a proteinaceous or

non-proteinaceous molecule which functions as an agonist of the C-reactive protein expression product.

23. The method according to any one of claims 1 to 8 or 10 to 16, wherein said modulation is down-regulation of C-reactive protein functional activity and said down-regulation is achieved by introducing to said mammal a proteinaceous or non-proteinaceous molecule which functions as an antagonist to the C-reactive protein expression product.

24. The method according to claim 23, wherein said antagonist is a lipoprotein.

25. The method according to claim 24, wherein said lipoprotein is native HDL or native LDL.

26. The method according to claim 24, wherein said lipoprotein is reconstituted HDL or reconstituted LDL.

27. The method according to claim 26, wherein said reconstituted HDL is discoidal reconstituted HDL comprising ApoA-I and a phospholipid.

28. The method according to claim 27, wherein said phospholipid is 1-palmitoyl-2-linoleoyl-phospatidyl choline (PLPC).

29. The method according to claim 28, wherein said PLPC and ApoA-I are at a molar ratio of 100:1.

30. The method according to claim 23, wherein said antagonist is a lipid.

31. The method according to claim 30, wherein said lipid is a phospholipid.

32. The method according to claim 31, wherein said phospholipid is a component of

HDL or PLPC.

33. The method according to claim 31, wherein said phospholipid is an unsaturated phospholipid.

34. The method according to claim 23 wherein said antagonist is a steroid or fatty acid.

35. The method according to claim 34 wherein said fatty acid is either a saturated or unsaturated form.

36. The method according to any one of claims 24 to 35, wherein said phospholipid component is partially oxidized.

37. The method according to any one of claims 24 to 35, wherein said phospholipid component is fully oxidized.

38. The method according to claim 1, wherein said endothelial cell activity is modulated *in vivo*.

39. The method according to claim 1, wherein said endothelial cell activity is modulated *in vitro*.

40. Use of an agent capable of modulating the functional activity of a C-reactive protein in the manufacture of a medicament for the therapeutic and/or prophylactic treatment of a condition, or a predisposition to the development of a condition, characterised by an aberrant inflammatory response in a mammal wherein down-regulating the functional activity of said C-reactive protein down-regulates the proinflammatory phenotype of an endothelial cell.

41. Use of an agent capable of modulating the functional activity of a C-reactive protein in the manufacture of a medicament for the modulation of an endothelial cell

proinflammatory phenotype wherein down-regulating the functional activity of said C-reactive protein down-regulates the proinflammatory phenotype of said endothelial cell.

42. Use according to any one of claims 40 or 41, wherein said proinflammatory phenotype is the up-regulation of adhesion molecule expression.

43. Use according to claim 42, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

44. Use according to claim 42 or 43, wherein said endothelial cell is a vascular endothelial cell.

45. Use according to claim 44, wherein said modulation of adhesion molecule expression is down-regulation of expression.

46. Use according to claim 44, wherein said modulation of adhesion molecule expression is up-regulation of expression.

47. Use according to claim 40, wherein said condition is an unwanted inflammatory condition, said endothelial cell is a vascular endothelial cell and said proinflammatory phenotype is adhesion molecule expression which is down-regulated.

48. Use according to claim 47, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

49. Use according to claim 48, wherein said inflammatory condition is atherosclerosis, inflammatory cardiovascular disease or atherosclerotic cardiovascular disease.

50. Use according to claim 48, wherein said atherosclerotic cardiovascular disease is

atherosclerotic coronary heart disease or stroke.

51. Use according to claim 48, wherein said inflammatory condition is diabetic vascular complications or chronic inflammatory disease such as rheumatoid arthritis or chronic colonic disease.

52. Use according to any one of claims 49 to 51, wherein said mammal has diabetes and is predisposed to the development of said inflammatory condition.

53. Use according to any one of claims 49 to 51, wherein said mammal is obese and is predisposed to the development of said inflammatory condition.

54. Use according to claim 40, wherein said condition is an inadequate inflammatory response, said endothelial cell is a vascular endothelial cell and said proinflammatory phenotype is adhesion molecule expression which is up-regulated.

55. Use according to claim 54 wherein said condition is an infection, cancer, myocardial infarction or said condition is one which requires an increase in vascular regeneration, such as wound healing.

56. Use according to claim 54 or 55, wherein said adhesion molecule is ICAM-1, VCAM-1 or E-selectin.

57. Use according to any one of claims 40 to 44, 46 or 54 to 56, wherein said modulation is upregulation or C-reactive protein functional activity and said up-regulation is achieved by introducing into said mammal a nucleic acid molecule encoding C-reactive protein or function derivative or homologue thereof or the C-reactive protein expression product or functional derivative or homologue thereof.

58. Use according to any one of claims 40 to 56, wherein said modulation is achieved by introducing to said mammal a proteinaceous or non-proteinaceous molecule which

modulates transcriptional and/or translational regulation of the C-reactive protein gene.

59. Use according to any one of claims 40 to 44, 46 or 54 to 46, wherein said modulation is up-regulation of C-reactive protein functional activity and said up-regulation is achieved by contacting said endothelial cell with a proteinaceous or non-proteinaceous molecule which functions as an agonist of the C-reactive protein expression product.

60. Use according to any one of claims 40 to 45 or 47 to 53, wherein said modulation is down-regulation of C-reactive protein functional activity and said down-regulation is achieved by introducing to said mammal a proteinaceous or non-proteinaceous molecule which functions as an antagonist to the C-reactive protein expression product.

61. Use according to claim 60, wherein said antagonist is a lipoprotein.

62. Use according to claim 61, wherein said lipoprotein is a native HDL or native LDL.

63. Use according to claim 61, wherein said lipoprotein is reconstituted HDL or reconstituted LDL.

64. Use according to claim 63, wherein said reconstituted HDL is discoidal reconstituted HDL comprising ApoA-I and a phospholipid.

65. Use according to claim 64, wherein said phospholipid is 1-palmitoyl-2-linoleoyl-phospatidyl choline (PLPC).

66. Use according to claim 65, wherein said PLPC and ApoA-I are at a molar ratio of 100:1.

67. Use according to claim 60, wherein said antagonist is a lipid.

68. Use according to claim 67, wherein said lipid is a phospholipid.

69. Use according to claim 68, wherein said phospholipid is a component of HDL or PLPC.

70. Use according to claim 67, wherein said phospholipid is an unsaturated phospholipid.

71. The method according to claim 60 wherein said antagonist is a steroid or fatty acid.

72. The method according to claim 71 wherein said fatty acid is either a saturated or unsaturated form.

73. Use according to any one of claims 61 to 70, wherein said phospholipid component is partially oxidized.

74. Use according to any one of claims 61 to 70, wherein said phospholipid component is fully oxidized.

75. A pharmaceutical composition comprising the modulatory agent as hereinbefore defined and one or more pharmaceutically acceptable diluents when used in the method of any one of claims 1 to 39 or in accordance with the use of any one of claims 40 to 74.